REMARKS

Claims 1, 3-9, 11-17 and 19-24 were pending and under consideration. In the FINAL Office Action of February 12, 2002, claims 1, 3-9, 11-17 and 19-24 were rejected.

In response, claims 1, 9 and 17 have been amended. Claims 4, 12 and 20 have been cancelled.

A. §102 (b) Rejection:

The Examiner has rejected claims 1, 3-9, 11-17 and 19-24 under 35 U.S.C. § 102(b) as being anticipated over Kume et al. (U.S. Patent No.: 5,923,690).

Claims 1, 9 and 17 have been amended and claims 4, 12 and 20 have been cancelled. As amended, claims 1, 9 and 17, recite that the film between an active layer and the current non-injection region of the staked film (d2) is made from a material expressed by a chemical formula $Al_xGa_{1-x}N$ ($0 \leqq x \leqq 0.15$) and has a thickness of 0.2 μm or less. This is clearly unlike Kume et al., which fails to disclose or even suggest that d2 thickness should be within Applicant's claimed range .

In stark contrast, Kume et al. specifically discloses the thickness d2 to be 0.25 μm (Fig. 15, col. 15, lines 24, 52-53), which is thicker than what is claimed in amended claims 1, 9 and 17. Further, both the ridge stripe (1580) and the buried n-AlGaN (1517) are covered by p-GaN capping layer (119) with a thickness of 0.5 μm and p-GaN contacting layer (120) with a thickness of 0.5 μm. Both are much thicker that the range claimed in claims 1, 9 and 17.

Thus, unlike Applicants' claims 1, 9 and 17, Kume et al. fails to disclose or even suggest a limitation of the d2 thickness in the GaN layer. Applicants' claims 1, 9 and 17 allows the ridge stripe and the buried AlGaN layers to be covered by GaN layers with a higher optical index. The thickness d2 must be thicker because the difference in the refractive index between an effective refractive index n1 of the current injection region in the film stacking direction and an effective

refractive index n2 of the current non-injection region in the film stacking direction tends to be lower. This is evident in Applicant's Figure 1, which shows when there is no GaN layer on the buried AlGaN layer (32). Unlike Kume et al., this will cause the thickness d2 to be thin which will results in lower current leak failure.

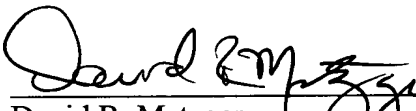
Claims 3, 5-8, 11, 13-16, 19, 21-24 all depend directly or indirectly from claims 1, 9 and 17 and are therefore allowable for at least the same reason that claims 1, 9 and 17 are allowable.

Applicants respectfully submit this rejection has been overcome and request that it be withdrawn.

In view of the foregoing, it is submitted that the pending claims 1, 3, 5-9, 11, 13-17, 19, 21-24 are patentable and that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

SONNENSCHEIN NATH & ROSENTHAL



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David R. Metzger
SONNENSCHEIN NATH & ROSENTHAL
P.O. Box 061080 - Wacker Drive Station
Chicago, Illinois 60606
Telephone (312) 876-2578
Attorneys for Applicant

SONNENSCHEIN NATH & ROSENTHAL
P.O. Box #061080
Wacker Drive Station-Sears Tower
Chicago, Illinois 60606-1080
(312)876-2578
11571612v1

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